

Electric Choice Question 11: *What data and studies should be reviewed and prepared to determine how various market structures impact rate levels, rate volatility, and reliability over all stages of the commodity cycle?*

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## **Executive Summary**

**Data and studies around electric rates and reliability show that deregulated models result in substantial problems over all stages of the commodity cycle: high, volatile rates in high power price environments and reliability concerns in low power price environments.**

### **Rate levels**

1. In spite of today's depressed wholesale power prices, which should put deregulated rates at their most competitive levels, electric rates are still higher on average in deregulated states than in regulated states

### **Rate volatility**

2. Wholesale power prices are affected by commodity cycles (the price fluctuations of fuel used to generate power), as these power prices are driven by the fuel cost of the highest-cost ("marginal") unit providing power in the market. Historically, gas prices have been the driver of wholesale power prices, as natural gas plants have been the marginal unit in most markets, resulting in volatility. In contrast, regulated rates are set by long-term average costs and tend to be more stable
3. As a result of their exposure to market price volatility, deregulated states have experienced significant price spikes, with 50-100+% rate increases
4. Markets with a heavy reliance on a single generating fuel source are more exposed to extreme commodity price swings

### **Reliability**

5. Deregulated power generators invest based on the profitability of their investments. Without high enough power prices over an adequate time period to provide sufficient assurance of investment recovery, they will not be willing to invest. Midwest deregulated generators (Ameren and Edison Mission) have already reduced investment in today's low power price environment. Without investment in the system, reliability is at risk. A few deregulated states are currently facing these reliability challenges

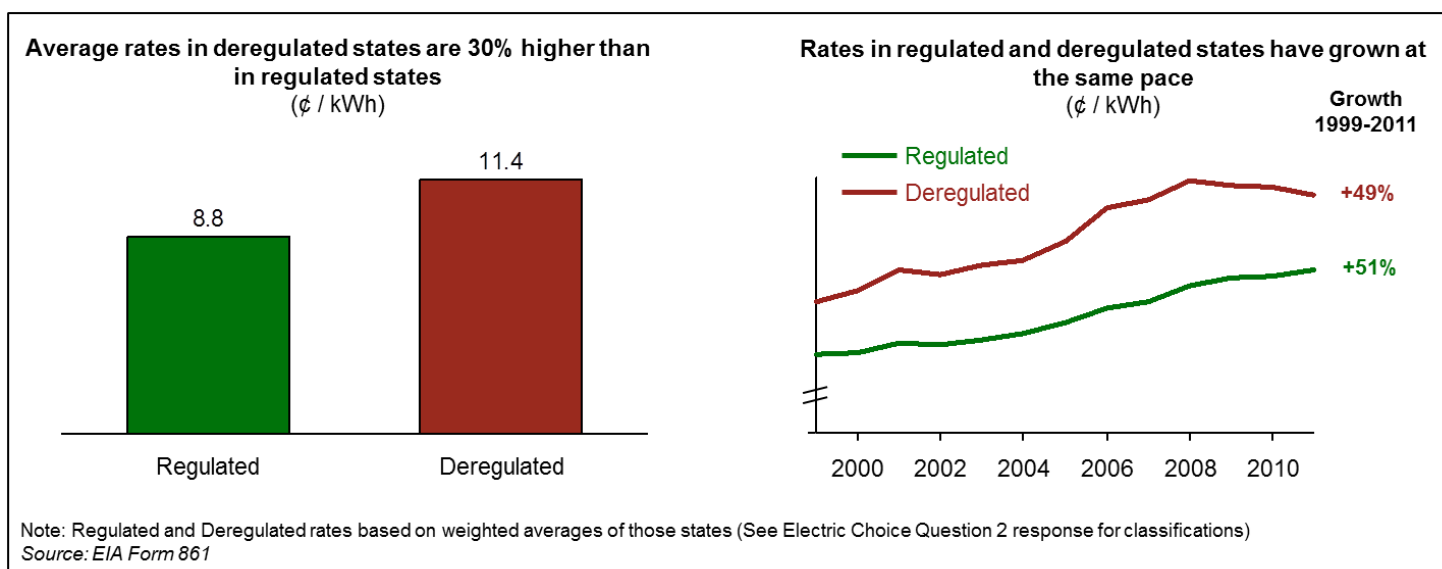
**Future changes in policy at the federal and state levels could result in even greater problems. Carbon or renewable policies, for instance, could result in higher prices. It is also difficult to predict the direction of commodity cycles. The environment is uncertain and deregulation would expose Michigan fully to this uncertainty.**

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*Additional data and studies from RTO organizations such as the MISO market monitor and PJM's Annual State of the Market report could be reviewed to see market prices, fuel mix, marginal units, supply curve, and other market factors that affect rate levels, volatility, and reliability over commodity cycles.*

## **Rate levels**

- In spite of today's depressed wholesale power prices, which should put deregulated rates at their most competitive levels, electric rates are still higher on average in deregulated states than in regulated states.** (See Electric Choice Question 5 response for state by state detail)



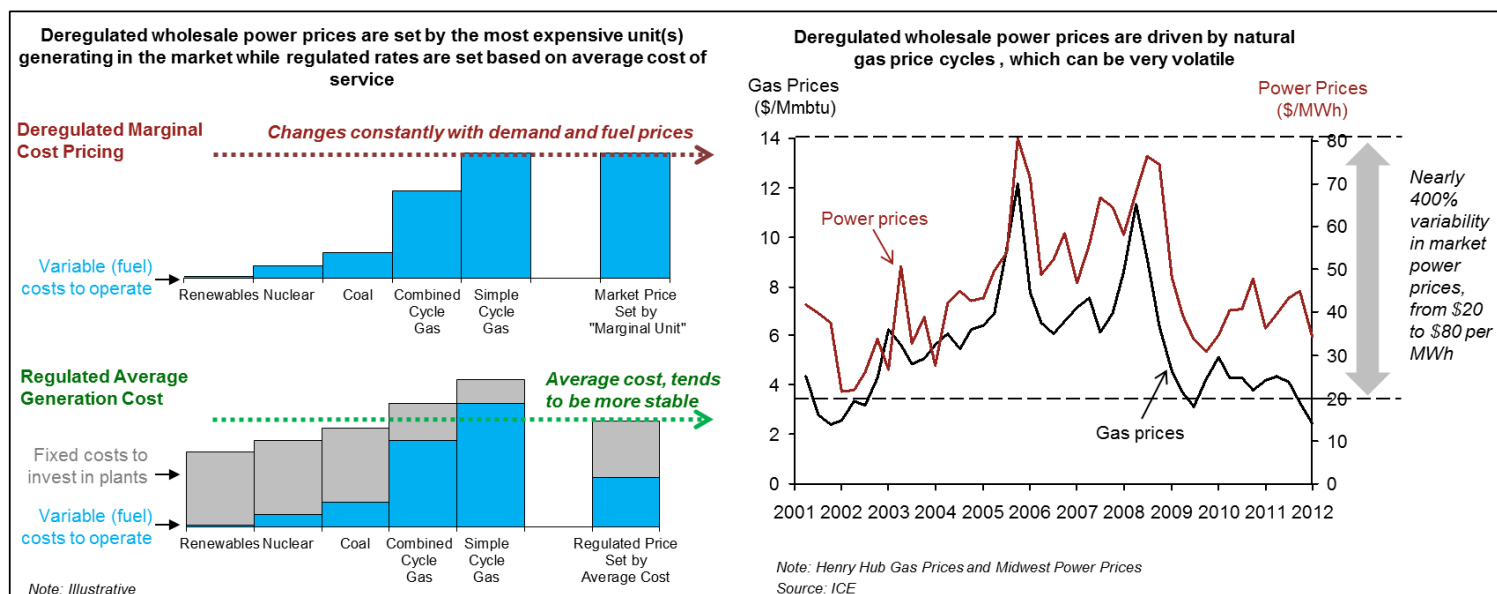
This gap between average regulated and deregulated rates has existed since deregulation began, and is largely driven by structural factors, as explained in Overall Question 1 – Structural Drivers of Electric Rates. Deregulation did not lower rates for deregulated states.

Deregulated rates saw increases prior to 2008 as gas prices increased and are now seeing decreases as gas prices have decreased. Regulated rates do not have the commodity exposure and volatility of deregulated rates. Regulated rates have been increasing as utilities have entered an investment cycle for reliability, environmental controls, and renewables.

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## Rate volatility

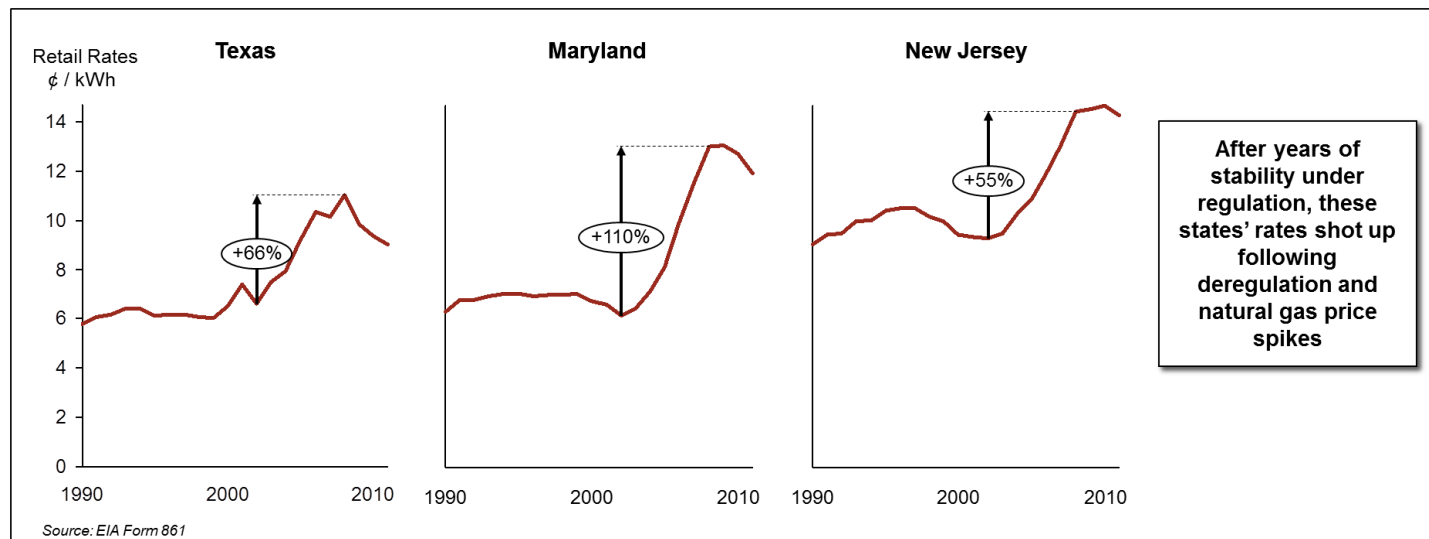
- Wholesale power prices are affected by commodity cycles, as these prices are driven by the fuel cost of the highest-cost (“marginal”) unit providing power in the market. Historically, gas prices have been the driver of wholesale power prices, as natural gas plants have been the marginal unit in most markets, resulting in volatility. In contrast, regulated rates are set by long-term average costs and tend to be more stable.



- As a result of their exposure to market price volatility, deregulated states have experienced significant price spikes, with 50-100+% rate increases.

Although they avoided the immediate prices spikes and rolling blackouts of the California Energy Crisis, Texas, New Jersey, and Maryland experienced significant price spikes as natural gas prices increased in the mid-2000s.

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#### 4. Markets with a heavy reliance on a single generating fuel source are more exposed to extreme commodity price swings.

Recent weather variability combined with the closure of coal plants has highlighted New England's overreliance on natural gas and the potential consequences of not having a diverse generation portfolio:

*"Electricity prices in New England have been four to eight times higher than normal...as the region's extreme reliance on natural gas for power supplies has collided with a surge in demand for heating"*

*"During the storm last week, with transmission lines being knocked out by snow and high winds, ISO [system operator] asked some gas-fired generators to start running in the middle of the night... and found they could not. We were sitting here, 3 in the morning, trying to get gas generators to start up, and we started seeing where they couldn't access that market in the overnight hours" – Dr. Chadalavada, ISO New England*

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*"Last year, natural gas provided 52 percent of New England's electricity, and that share is expected to grow... the lower [natural gas] costs have spurred the retirement of aging coal generators and nuclear reactors. The six-state New England region and parts of Long Island are the most vulnerable now to overreliance on gas... officials worry that similar problems could spread to the Midwest"*

*Source: The New York Times, "In New England, a Natural Gas Trap", February 2013*

Despite these recent price spikes and reliability concerns from overreliance on natural gas, deregulated generators continue to shut-down coal plants in New England as the owners cannot earn a profit.

*"We've seen in this market [New England] three coal-fired power plants out of eight exit the market already... the Somerset power plant in Bristol County, Mass., the Thames power plant in Montville, Conn., and the Salem Harbor Power Station, in Salem, Mass." —Jonathan Peress, Conservation Law Foundation Clean Energy and Climate Change Program*

Thomas Farrell, CEO of Dominion, a company in the process of selling financially distressed deregulated generation in the Northeast, warns of a continued overreliance on natural gas in deregulated markets:

*" 'If you want to see the price of natural gas rise ... replace the entire fleet — all coal and all nuclear over the next 20 or 30 years — with gas. You are going to regret it.' Farrell said that in the long term, it is "foolhardy" to rely just on natural gas power plants.*

*[Dominion will] invest in new power plants, but those will be investments through its regulated business, which Farrell said provides investors with more reliable, steady returns than merchant facilities."*

*Source: SNL Financial summary of Thomas Farrell interview following The Wall Street Journal's ECO:nomics conference*

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### **Reliability**

- 5. Deregulated power generators invest based on the profitability of their investments. Without high enough power prices over an adequate period of time to provide sufficient assurance of investment recovery, they will not be willing to invest. Midwest deregulated generators have already reduced investment in today's low power price environment. Without investment in the system, reliability is at risk. A few deregulated states are currently facing these reliability challenges.**

Deregulated generators will not invest without high prices that allow recovery of investment.

*"This means that system-wide reliability and resource adequacy directly depend on the level of market-based revenues available to suppliers. If such revenues are insufficient to cover the total forward looking costs, new capacity will not be built and existing capacity will not be retained"*

*Source: The Brattle Group, "A Comparison of PJM's RPM with Alternative Energy and Capacity Market Designs" September 2009*

Midwest deregulated generators have already been reducing investments and shutting down plants in today's low power price cycle. (See Electric Choice Question 6 response for more examples of deregulated generators reducing investment)

*"Low capacity and power prices as well as high fuel costs have been hurting Edison Mission's profitability...accelerating the shuttering of its Fisk and Crawford plants [Illinois]" – Edison Mission*

*"In exiting the merchant generation business [Illinois], Ameren cited decreased earnings and cash flows over the past few years, which it said have resulted from weaker power prices and more stringent environmental regulations" – Ameren Energy*

Reliability is at risk without investment. Texas, Maryland, and New Jersey, deregulated states, are now facing reliability concerns in today's low power price environment, in which the deregulated market has not incented sufficient investment in generation. Both Maryland and New Jersey have implemented extreme regulatory measures to cause investment in new generation. (See Electric Choice Question 7 response for detail on the regulatory measures taken)